

1 **WHAT IS CLAIMED IS:**

2 1. A method of arranging the resistive sensing circuit on a position
3 touch screen panel, comprising the steps of:

4 arranging the resistive sensing circuit, consisting of sensor lines (Xin),
5 (Xout), (Yin), and (Yout), on two substrates (11, 12) in a way that allows the
6 two substrates to be symmetrically overlapped, such that each substrate has two
7 sensor lines in an X or a Y direction; and

8 making parallel connections along the path of the sensor lines, (Xin),
9 (Xout), (Yin), and (Yout), such that at least one pair of parallel connections in
10 opposite corners (on diagonal lines) of the touch screen panel is able to attain
11 matching voltages;

12 wherein the pair of parallel connections in opposite corners (on
13 diagonal lines) to attain matching voltages shall fulfill the conditions:

14 measured voltages from first corner connections of sensor lines are
15 high, and

16 measured voltages from second corner connections of sensor lines are
17 low,

18 whereby the first and second corner connections respectively exist in
19 diagonal opposite corners of the touch screen panel, and

20 voltage levels at corner points are defined relative to other corner
21 points on one sensor line, not from comparison of two sensor lines..

22 2. A position touch screen panel, comprising:

23 a first substrate (11) with a periphery including four corners and having
24 two Y direction sensor lines (Yin) (Yout) that extend along the periphery to

1 cover all four corners; and
2 a second substrate (12), with a periphery including four corners and
3 being placed over the first substrate (11), having two X direction sensor lines
4 (Xin) (Xout) that extend along the periphery of the second substrate to cover all
5 four corners of the second substrate;

6 whereby, after the above two substrates (11, 12) are symmetrically
7 overlapped, at least one pair of parallel connections in opposite corners (on
8 diagonal lines) of the touch screen panel shall attain matching voltages;

9 wherein the pair of parallel connections in opposite corners (on
10 diagonal lines) shall attain matching voltages by fulfilling the conditions:

11 measured voltages from first corner connections of sensor lines are
12 high, and

13 measured voltages from second corner connections of sensor lines are
14 low,

15 whereby the first and second corner connections respectively exist in
16 opposite corners of the touch screen panel and

17 voltage levels at corner points are defined relative to other corner
18 points on one sensor line, not from comparison of two sensor lines.

19 3. The position touch screen panel according to claim 2, wherein the
20 touch screen panel has four corners A, B, C and D sequentially arranged in a
21 counter-clockwise direction, and the pairs of corners A and C, and corners B
22 and D are arranged in opposite corners (on diagonal lines) of the touch screen
23 panel, and the sensor lines (Xin), (Xout), (Yin), and (Yout) have multiple
24 parallel connections along the path to cover the four corners of the touch screen

1 panel, whereby:

2 the sensor line (Yin) of the first substrate (11) starts from one end in
3 the middle section of the lower side of the first substrate (11), connects to
4 corner A, and then returns to corner D, such that the voltage over corner A
5 connection of the sensor line (Yin) is higher than that over corner D connection
6 of the sensor line (Yin);

7 the sensor line (Yout) of the first substrate starts from one end in the
8 middle section of the lower side of the first substrate (11), connects to corner D,
9 corner C, and then turns to corner B, such that the voltage over corner B
10 connection of the sensor line (Yout) shall be higher than that over corner C
11 connection of the sensor line (Yout);

12 sensor line (Xin) of the second substrate (12) starts off from one end in
13 the middle section of the lower side of the second substrate (12), connects to
14 corner A, and corner B serially, such that the voltage over corner A connection
15 of the sensor line (Xin) shall be higher than that over corner B connection of
16 the sensor line (Xin); and

17 sensor line (Xout) of the second substrate (12) starts off from one end
18 in the middle section of the lower side of the second substrate (12), connects to
19 corner D, to corner C, and then returns to corner D, such that the voltage over
20 corner D connection of the sensor line (Xout) shall be higher than that over
21 corner C connection of the sensor line (Xout);

22 whereby the pair of parallel connections in opposite corners A and C
23 shall fulfill the conditions of matching voltages.

24 4. A position touch screen panel, comprising:

1 a first substrate (11) with a periphery including four corners and having
2 four sensor lines (Xin) (Xout) (Yin) (Yout) in X, Y directions on an inner
3 surface that extends along the periphery of the substrate to cover all the four
4 corners; and

5 a second substrate (12) with a periphery being placed over the first
6 substrate (11) and having a common sensing line (13) on an inner surface that
7 extends along the periphery of the substrate (12) to form a closed loop;

8 whereby, after the above two substrates (11, 12) are symmetrically
9 overlapped, at least one pair of parallel connections in opposite corners (on
10 diagonal lines) of the first substrate (11) shall attain matching voltages;

11 wherein the pair of parallel connections in opposite corners (on
12 diagonal lines) shall attain matching voltages by fulfilling the conditions:

13 measured voltages from first corner connections of sensor lines are
14 high, and

15 measured voltages from second corner connections of sensor lines are
16 low,

17 whereby the first and second corner connections respectively exist in
18 opposite corners of the touch screen panel and

19 voltage levels at corner points are defined relative to other corner
20 points on one sensor line, not from comparison of two sensor lines...

21 5. The position touch screen panel according to claim 4, wherein the
22 touch screen panel has four corners A, B, C, D sequentially arranged in a
23 counter-clockwise direction, and the pairs of corners A and C, and B and D, are
24 opposite corners of the touch screen panel, and the four sensor lines (Xin),

(Xout), (Yin), and (Yout) in the X, Y directions on the first substrate have multiple parallel connections along the path to cover the four corners of the touch screen panel, whereby:

the sensor line (Yin) of the first substrate (11) starts from one end in the middle section of the lower side of the first substrate, connects to corner A, and then returns to corner D, such that the voltage over corner A connection of the sensor line (Yin) shall be higher than that over corner D connection of the sensor line (Yin);

the sensor line (Yout) on the first substrate (11) starts off from one end in the middle section of the lower side, connects to corner D, corner C, and then turns to corner B, such that the voltage over the corner B connection of the sensor line (Yout) shall be higher than that from the corner C connection of the sensor line (Yout);

the sensor line (Xin) on the first substrate (11) starts from one end in the middle section of the lower side, connects to corner A and corner B serially, such that the voltage over the corner A connection of the sensor line (Xin) shall be higher than that from the corner B connection of the sensor line (Xin); and

the sensor line (Xout) on the first substrate (11) starts from one end in the middle section of the lower side, connects to corner D and corner C and then returns to corner D, such that the voltage over the corner D connection of the sensor line (Xout) shall be higher than that from the corner C connection of the sensor line (Xout);

whereby parallel connections in opposite corners A and C shall fulfill the conditions of matching voltages.